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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/807,359

03/23/2004

Robert S. Caroon

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08/18/2004

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EXAMINER

TAMAI, KARL I

ART UNIT

PAPER NUMBER

2834

DATE MAILED: 08/18/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/807,359

Applicant(s)

CAROON, ROBERT S.

Examiner

Tamai IE Karl

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 March 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>3/24/2004</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, each of the windings being electrically coupled to a commutator segment (claims 1 and 10) the must be shown or the features canceled from the claims. No new matter should be entered.

Corrected drawing sheets are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

2. The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

3. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 1-12 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claims contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention.

Claims 1-12 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claims contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The specification does not enable or contain a full, clear, concise, and exact written description of how the windings will be electrically coupled/joined to the commutator segment. It is unclear how the rotor will rotate when the stationary stator windings are coupled to rotary commutator segments.

In order to advance prosecution on the merits the examiner will assume the stator windings are electrically in contact with (rather than coupled) to the commutator segments through the brushes.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 13 and 14 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Hall et al. (Hall)(US 4731554). Hall teaches a motor having a housing 12 with ball bearings 30, 32 which maintains the axial position of the first/second permanent magnet field armatures 38 which are fixed to the axle 16, where the first and second field magnets are drive by an electromagnets 18 which are sequentially energized.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 2834

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1, 4, 6, 7, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hall et al. (Hall)(US 4731554) and Welch (US 3042847). Hall teaches every aspect of the invention except a commutator coupled to the axle to sequentially energize the stator magnets. Welch teaches a commutator to sequentially energize the magnets in a permanent magnet rotor to provide a light, compact, and employs few components motor. It would have been obvious to a person of ordinary skill in the art at the time of the invention to construct the motor of Hall with the windings connected to a commutator to provide a light, compact, and employs few components motor.

10. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hall et al. (Hall)(US 4731554) and Welch (US 3042847), and Mitcham (US 5973436). Hall and Welch teach every aspect of the invention except the field magnets being iron core magnets. Mitcham teaches that Ward teaches neodymium iron boron are high energy magnets suitable for motors. It would have been obvious to a person of ordinary skill in the art at the time of the invention to construct the motor of Hall and Welch with the iron core magnets of Mitcham to provide high energy magnets on the rotor.

Art Unit: 2834

11. Claim 3 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hall et al. (Hall)(US 4731554) and Welch (US 3042847). Hall and Welch teach every aspect of the invention except the field magnets being eight. It would have been obvious to a person of ordinary skill in the art at the time of the invention to construct the motor of Hall and Welch with the field magnets being eight because determining the optimum value of a result effective variable involves only routine skill in the art (see *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980)).

12. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hall et al. (Hall)(US 4731554) and Welch (US 3042847), in further view of Krivospitski et al. (Krivospitaski)(US 6002192). Hall and Welch teach every aspect of the invention except the number of field magnets being equal to the number of armature magnets. It would have been obvious to a person of ordinary skill in the art at the time of the invention to construct the motor of Hall and Welch with the field magnets being equal to the number of armature magnets because Kirvospitski teaches that equal numbers of rotor and stator magnets provide good starting characteristics.

13. Claims 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hall et al. (Hall)(US 4731554) and Welch (US 3042847), in further view of Yamauchi (JP 05-146,121). Hall and Welch teach every aspect of the invention except additional field and armature magnets. Yamauchi teaches additional field magnets and armature magnets (figure 4). It would have been obvious to a person of ordinary skill in the art at

Art Unit: 2834

the time of the invention to construct the motor of Hall and Welch with additional field and armature magnets to provide efficient power conversion.

In regards to claim 12, mere duplication of parts to provide additional field magnets and electromagnets involves only routine skill in the art. (See *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8).

14. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hall et al. (Hall)(US 4731554) and Yamauchi (JP 05-146,121). Hall teaches every aspect of the invention except additional field and armature magnets. Yamauchi teaches additional field magnets and armature magnets (figure 4). It would have been obvious to a person of ordinary skill in the art at the time of the invention to construct the motor of Hall with additional field and armature magnets to provide efficient power conversion.


15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karl I.E. Tamai whose telephone number is (571) 272 - 2036.

The examiner can be normally contacted on Monday through Friday from 8:00 am to 4:00 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Darren Schuberg, can be reached at (571) 272 - 2044. The facsimile number for the Group is (703) 872 - 9306.

Art Unit: 2834

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Karl I Tamai
PRIMARY PATENT EXAMINER
August 16, 2004



KARL TAMAI
PRIMARY EXAMINER